Mei Wang

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IEEE Student Member ⋄ http://maywang-sjtu.github.io

EDUCATION

Shanghai Jiao Tong University 9/2012 - 6/2016
B.E. in Electronics and Electric Engineering & Minor in Computer Science
IEEE Honor Class[1], Overall GPA: 3.74 (87.42), Class ranking: 14/78 (in major EE: Top 2)

PUBLICATIONS

[1] **M. Wang**, Z. Zhang, X. Tian, X. Wang, **"Temporal Correlation of the RSS Improves Accuracy of Fingerprinting Localization"**, submitted to *Proc. IEEE INFOCOM*, 2016.

[2] Z. Zhang, **M. Wang**, D. Liu, X. Tian, X. Wang, **"Squeeze More from the Fingerprints Reporting Strategy for Indoor Localization"**, submitted to *Proc. IEEE INFOCOM*, 2016.

RESEARCH EXPERIENCES

Undergraduate member of **Research Center of Intelligent Internet of Things** (IIoT).
Supervised by **Prof. Xinbing Wang & Prof. Xiaohua Tian**.

Research on Temporal Correlation of RSS in Fingerprint-based Localization 3/2015 - present

Indoor localization *Group Leader*

- Modeled a theoretical framework on fundamental limits of fingerprint-based localization with accuracy and reliability when considering the temporal correlation of signal strength.
- Explained the mechanism that how temporal correlation of the Received Signal Strength (RSS) can correct the localization determination criteria for MLE by theoretical derivation.
- Derived experiments to analysis the temporal correlation performances on localization for time slot, distance, device and environment with corroborated results for theoretical analysis.

User-behavior based Optimization Methodology for CloudNFV Network 1/2015 - present

Cellular Network *Group leader*

- Builded up Traffic Model for the activities of substantial mobile users in communication cellular network.
- Developed the resource allocation mechanis for EPC nodes on Network Function Virtualization framework.
- Designed adaptive and dynamic optimization algorithms for capacity improvement in this NFV framework.

Location Based Services System Development cooperating with Foxconn 7/2015 - 10/2015

iOS Indoor Localization System *iOS team leader*

- Developed iOS LBS application for indoor localization including RSS scanning, Map displaying, Pedometer, Information management as well as Sever communication components.
- Designed and complemented the localization determination algorithms with both online Wi-Fi RSS figerprint based clustering method and Bluetooth offline gradient descent method.

Dallas Cooperation Project of Ericsson and IWCT SJTU 7/2014 - 3/2015

Communication System *Core member*

- Renovated the traffic model as state machine and probability matrix for user activities in WCDMA network.
- Wrote a simulation software by C++ to model the stability distribution of user behavior in 3GPP network.
- Simulated the traffic packages and user activity translation by MATLAB to prove the stability of model.

Crowdsourcing based Lane-level Vehicular Localization utilizing Smartphones 9/2014 - 1/2015

Intelligent Transportation *Member*

- Designed Client/Server system model to realize lane-level localization so as to facilitate the travel programming of the pilotless automobile and high precision vehicle navigation.
- Leveraged the sensors in smartphone like accelerator and gyroscope as well as GPS module, integrated through Kalman Filter and IMM filter to find the trajectory of vehicles.
- Crowd-sourced numerous trajectories, determined the number of lanes of the road on-time by gyroscope and classified the vehicle location by k-means clustering algorithm in server.

[1] IEEE Honor Class: http://english.seiee.sjtu.edu.cn/english/info/8338.htm

ACADEMIC PROJECTS & COMPETITIONS

Identification, Analysis and Warning for Large Pedestrian Flow in Urban Areas 6/2015 - present

2015 3rd Chun-Tsung Program of SJTU *Leader*

- Created a dynamic model for large pedestrian flow with consideration of variety of factors and integrated methodologies with localization, video analysis and RFID for urban areas.
- Warned the peak flow by reasonable thresholds of velocity, density and counting. Provided evacuation measures combining pedestrian prediction and network topology of the road.
- Verificated the model and algorithms by using Legion pedestrian simulation system in some typical regions.

A Map-Generating and Speed Optimizing Driving System 11/2014 - 11/2015

The 7th University Innovative Participate Program in Shanghai *Member*

- Generated a road map and infered traffic signal schedules, using only smartphones and a server, automatically crowdsourcing from sensors like accelerator, gyroscope and GPS modules.
- Excavated the traffic signal schedule in complex intersections by learning the traffic light deduction algorithms and traffic signal phases, with simulation result of less than 1 second error.
- Provided a recommended speed for drivers to maximize the probability that vehicles cruise through intersections in green phase without brakes so as to reduce energy consumption.

"LoveDrop" Android Application Development 12/2014

2014 Google Girls Hackathon Party *Member*

- Developed an Android application named as "Love Drop", a game application for lovers in this hackathon party, only opened for women student engineers held by Google Shanghai.
- Exploited three main functions of this LoveDrop game app – the love tree cultivation for beautiful memory, the beat vent tool game for catharsis, and a log history for dairy growth.

AWARDS & SCHOLARSHIPS

- Fan Xuji Scholarship (Top 5%) 2013,2014
- Academic Excellence Scholarship of SJTU (Top 10%) 2013,2014
- National Encouragement Scholarship (Top 10%) 2013
- Pan Wenyuan Scholarship (Top 5%) 2013
- Excellent League Member of SJTU 2013
- Excellent Student of SJTU 2012
- Winning prize of 3rd Tsien Hsueshen Cup College Students technological innovation contest 2015
- First prize in Google Girls Hackathon Party 2014
- Third prize of the fifth PRO-FACE Man-machine interface programming contest 2012

EXTRACURRICULAR ACTIVITY

Student Organizations / Clubs 9/2012 - 9/2014

- Director of Organization Department of Community Committee in SEIEE
- Member of the student union of SEIEE / Young Volunteer team of SJTU
- College Women Basketball Team / Xizhou Guqin Society / Student Choir of SJTU / English Cornor

Volunteering Activities 9/2012 - 9/2015

- Volunteered in Shanghai Railway Station, Freshman welcome meeting, Wujing Social Environment-friendly publicity, Shanghai International Marathon, Shanghai Science and Technology Museum. Blood donation.

TECHNICAL STRENGTHS

Programming Skills: C++, Python, JAVA, Erlang, Android, iOS, LabVIEW, MATLAB, LaTeX

English Ability: TOEFL 101 (S 23); GRE 315 (AW 3.5).